



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,512	07/28/2003	Masuhira Natsuhara	39.018-AG	1511

29453 7590 07/05/2005

JUDGE PATENT FIRM  
RIVIERE SHUKUGAWA 3RD FL.  
3-1 WAKAMATSU-CHO  
NISHINOMIYA-SHI, HYOGO, 662-0035  
JAPAN

EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/604,512

Applicant(s)

NATSUHARA ET AL.

Examiner

Ram N. Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/14/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "diameter of the wafer" in claim 1 is a relative term since wafer is not a part of the claimed apparatus its diameter may vary. This renders the claim indefinite. Reference to an object that is variable may render a claim indefinite (*Reference to an object that is variable may render a claim indefinite* MPEP 2173.05 (b)).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1763

**4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Niori et al (US 6197246).**

Niori et al disclose a wafer holder for a semiconductor manufacturing equipment (Fig 7) and disclose an RF electrode (30) of round shape built in the wafer holder. The electrode circuit diameter is disclosed slightly greater than the wafer (Fig 7). The distance between the electrode and the wafer-carrying surface (Fig 4-16 *called wave permeation layer*) being 1mm maximum (Col 15 lines 51-54). The electrode is disclosed to be 200mm (Col 19 lines 7-11) and the diameter of the holder 205 mm (Col 19 lines 32-36). Therefore the distance of electrode to the periphery of the holder (2.5 mm) is disclosed greater than the distance between the electrode and the wafer-carrying surface.

Regarding the size of electrode as it is disclosed to be 200mm it is same as that of a standard wafer of 200mm.

**5. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Divakar et al (US 20020185487).**

Divakar et al disclose a wafer holder for a semiconductor manufacturing equipment (Fig 1 and Para 02) and disclose an RF electrode (15) of round shape built in the wafer holder. The electrode circuit diameter is disclosed slightly greater than the wafer (Fig 1). The distance between the electrode and the wafer-carrying surface appears to be smaller than the distance of electrode to the periphery of the holder.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1- 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niori et al (US 6197246) in view of Shamouilian et al (US 20010003298).**

Niori et al disclose a wafer holder for a semiconductor manufacturing equipment (Fig 7) and disclose an RF electrode (30) of round shape built in the wafer holder. The electrode circuit diameter is disclosed slightly greater than the wafer (Fig 7). The distance between the electrode and the wafer-carrying surface (Fig 4-16 *called wave permeation layer*) being 1mm maximum (Col 15 lines 51-54). The electrode is disclosed to be 200mm (Col 19 lines 7-11) and the diameter of the holder 205 mm (Col 19 lines 32-36). Therefore the distance of electrode to the periphery of the holder (2.5 mm) is disclosed greater.

Regarding the size of electrode as it is disclosed to be 200mm it is same as that of a standard wafer of 200mm. However if the size of the wafer is 300mm Shamouilian et al teach that the electrode size could be 70,000 mm<sup>2</sup>.

Therefore it would have been obvious for one of ordinary skill in the arts at the time of invention to have an electrode of sufficient size in order to uniformly couple RF energy to the processing gas.

Art Unit: 1763

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ram Kackar

AU 1763